Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	**)**	**WC Docket No. 04-36**
IP-Enabled Services	**)**	

COMMENTS OF PULVER.COM

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TABLE OF CONTENTS

I. INTRODUCTION …… 3

II. BACKGROUND …….. 5

III. DISCUSSION …… 10

- **A. A Rare Opportunity to Create the Right Incentives and Deregulatory Paradigm …….. 10**
- **B. The Protocol Layers and Voice as an "Application" ……... 11**
- **C. "Regulation Matrix" ……..…….. 15**
- **D. Two Regulatory Paradigms Can Exist Simultaneously, But, Certainly, Legacy Telecom Regulations Should Not Contaminate and Stifle IP-Based Communications …… 19**
- **E. vNXX and ISP-bound Traffic …… 20**
- **F. Categories of IP-Based Communications Services ……. 23**
- **G. The Commission Should Ensure that Consumers Can Obtain the Applications of Their Choice ……... 26**
- **H. The Historic and Continuing Need to Regulate Telecommunications Services While Not Regulating Information Services ……... 28**
- **J. Strengthening *Computer Inquiry* …… 40**
- **K. Naked DSL, Cable Modems, and other Broadband Access Services …… 44**
- **L. The Commission Must Allow for Industry-based Solutions to Achieve Social Goods ……. 45**

IV. CONCLUSION …… 49

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Pursuant to Section 1.2 of the Commission's Rules, 47 C.F.R. § 1.2, pulver.com submits these comments in response to the Commission's *Notice of Proposed Rulemaking* of March 10, 2004,[1] and the *Public Notice* of March 29, 2004,[2] in the above-captioned matter, seeking comment regarding services and applications that make use of Internet Protocol ("IP").

I INTRODUCTION

pulver.com and its various enterprises (including Free World Dialup, the subject of the Commission's first VoIP-specific order) are dedicated to realizing the full potential of IP-based communications. For pulver.com, today feels much like the telecom industry must have felt in the late 19th Century, when a multitude of carriers with distinct networks and technologies were working out the interoperability and interconnection arrangements necessary to create a ubiquitous telecommunications network of networks.

[1] *In the Matter of IP-Enabled Services*, WC 04-36, Notice of Proposed Rulemaking, FCC 04-28 (March 10, 2004) ("*NPRM*").
[2] Public Notice, *Pleading Cycle Established for Comments in IP-Enabled Services Rulemaking Proceeding*, DA-04-888 (March 29, 2004).

pulver.com is currently working out its interconnection arrangements and interoperability guidelines with other IP-based communications islands and other IP-based entities. From this perspective, pulver.com requests that the Commission, first, does no harm, and, second, lends additional clarity to the regulatory landscape, so that pulver.com and other IP-based communications companies may proceed and make business decisions with certainty. In particular, pulver.com suggests that the Commission resolve the lingering intercarrier compensation and universal service proceedings, particularly to ensure that IP-based communications providers are not dragged into existing regulatory schemes that so desperately need to be reformed. Certainly, the Commission should not subject IP-based communications to a set of archaic regulations that were designed and kluged together over the years to patch together a disparate array of technologies and services. The disruptive emergence of IP-based communications essentially compels the Commission to rethink the patchwork of disparate, illogical and irreconcilable regulations.

As the direct beneficiary of the rules allowing Free World Dialup to provide its peer-to-peer Internet communications application without regulation, pulver.com could watch contently from the sidelines, while other entities advocate for the right to deploy their own particular flavors of IP-based communications without excessive government intrusion and their opponents try to impose legacy regulations on various varieties of IP-based communications. pulver.com, however, is convinced that the conclusions and rules that will result from this proceeding will greatly affect the future of *all* IP-based communications, including the speed of deployment, consumer and enterprise adoption and ubiquity of IP-based communications. In particular, this proceeding will affect the

ways in which IP-based communications intersects with traditional telecommunications networks and services. As such, pulver.com submits these comments in the hope that the Commission uses this opportunity wisely, to establish the ground rules (or more precisely limit the rules) to help the United States, and the world, realize the full potential of IP-based communications.

On March 10, 2004, Chairman Powell spoke to the National Association of Regulatory Utility Commissioners ("NARUC"). In that speech, Chairman Powell spoke of empowering consumers of IP-based communications services. Chairman Powell challenged the industry to adopt four simple Internet Freedoms for consumers:

- *Freedom to Access Content:* Consumers should have access to their choice of legal content;
- *Freedom to Use Applications*: Consumers should be able to run applications of their choice;
- *Freedom to Attach Personal Devices*: Consumers should be permitted to attach any devices they choose to the connection in their homes; and
- *Freedom to Obtain Service Plan Information*: Consumers should receive meaningful information regarding their service plans.

According to Chairman Powell, these freedoms will preserve consumer choice, foster competition and promote investment in infrastructure and Internet applications. pulver.com agrees that we, as an industry, need to think creatively about how to protect consumers in a newly competitive communications environment. pulver.com and many members of the IP-based communications community are committed to achieving these very same goals. In these comments, we discuss ways to achieve these goals.

II. BACKGROUND

In the *Notice of Proposed Rulemaking* ("*NPRM*"), the Commission examines issues relating to services and applications making use of Internet Protocol (IP), including

but not limited to voice over IP ("VoIP") (collectively, "IP-enabled services"). The Commission seeks comment on the impact that IP-enabled services have had and will continue to have on the United States' communications landscape.

The Commission correctly notes that the Internet is "a truly global network providing instantaneous connectivity to individuals and services,"[3] and "has transcended historical jurisdictional boundaries to become one of the greatest drivers of consumer choice and benefit, technical innovation, and economic development in the United States in the last ten years."[4] The Commission further acknowledges that the Internet "has done so in an environment that is free of many of the regulatory obligations applied to traditional telecommunications services and networks."[5]

In the *NPRM*, the Commission notes that developments in IP-based communications are expected to reduce costs, spur innovation and individualization, increase economic productivity and growth, and bolster network redundancy and resiliency. Thus, the stated goal of the Commission in this proceeding is to facilitate the transition to IP-enabled services. In so doing, the Commission plans to rely on competition wherever possible and apply discrete regulatory requirements only where necessary to fulfill important policy objectives. To that end, the Commission seeks comment on a number of issues.

A Categories of IP-Enabled Services

[3] *NPRM* at para. 1.
[4] *Id.*
[5] *Id.*

The Commission asks if it is necessary to differentiate among various IP-enabled services to determine if different types of regulations are appropriate for different IP applications. The Commission suggests that IP-enabled services that are direct replacements for traditional voice telephony may be subject to certain regulations, while other IP-based services may be subject to different regulations, or none at all.

The Commission provides a list of functional and economic factors that might be used to divide IP-enabled services into categories calling for distinct treatment, and asks for comment on the utility of drawing distinctions based on these factors. The list of factors is as follows:

- Functional equivalency to traditional telephony;
- Extent to which services are used in lieu of, rather than in addition to, traditional telephony;
- Interconnection to the Public Switched Telephone Network ("PSTN") and use of telephone numbers allocated per the North American Numbering Plan;
- Whether the service facilitates "disintermediated peer-to-peer IP-enabled services" (such as pulver.com's Free World Dialup service) or relies on a telephone carrier's centralized services (such as Vonage's service offerings);
- Where the service fits into the "layered" model of regulatory treatment, in which the regulatory treatment of a service depends upon what layer of the protocol stack the service employs (i.e., the underlying transmission facility, the communications protocol used to transmit information, and the applications used by the end user to issue and receive information); and
- Other grounds, such as whether the service is offered on a common carrier basis, and the nature of the platform used to provide the service.

B. Jurisdictional Considerations

The Commission seeks comment on the jurisdictional nature of IP-enabled services. The Commission asks whether its recent determination that the Free World Dialup service is subject to federal jurisdiction should be extended to other IP-enabled services, and whether one or more classes of IP-enabled services should be deemed subject to exclusive federal jurisdiction with regard to traditional common carrier regulation. It questions what role, if any, state regulators will play in overseeing IP-enabled services.

C. Appropriate Legal Framework

Third, the Commission seeks comment on the appropriate statutory classification for each identified category of IP-enabled services, *i.e.*, which services are "telecommunications services" and which services are "information services." The Commission also asks commenters to address the extent to which previous interpretations of statutory terms are or are not suitable for the proper classification of IP-enabled services.

D. Specific Regulatory Requirements and Benefits

Fourth, the Commission asks commenters to describe which regulatory requirements and entitlements, if any, should apply to each category of IP-enabled service, and whether existing regulatory frameworks should be modified. In particular, the Commission asks the following questions with respect to specific regulatory requirements:

- *911/E911 and Critical Infrastructure Deployment*. What is the potential applicability of 911, E911, and related critical infrastructure regulation to VoIP and other IP-enabled services?

- *Disability Access*. How should disability accessibility and Telecommunications Relay Services requirements apply to providers of VoIP or other IP-enabled services?

- *Carrier Compensation*. To what extent should access charges apply to VoIP and other IP-enabled services?

- *Universal Service*. How would the regulatory classification of IP-enabled services, including VoIP, affect the Commission's ability to fund universal service? Should non-facilities-based providers of IP-enabled services, including services that are determined to be information services, be required to contribute to universal service?

- *Title III*. Does Title III of the Communications Act, which provides the structure for the Commission's regulation of spectrum-based services, require that spectrum-based services be treated differently from other IP-enabled services?

- *Title VI*. What is the effect of Title VI of the Communications Act, which concerns the regulation of cable facilities and services, on any potential regulation of cable-based IP-enabled services?

The Commission also asks for comment on:

- Whether the customer proprietary network information ("CPNI") rules (which restrict a telecom carrier's ability to use network information for marketing its services) should be extended to subscribers of VoIP or other IP-enabled services;

- Whether common carrier consumer protection obligations such as compliance with slamming requirements and the truth-in-billing rules should apply to IP-enabled service providers;

- Whether traditional common carrier economic regulations, such as the requirement in Section 201 of the Communications Act to provide service upon reasonable request at just and reasonable rates, terms and conditions, should apply to any class of IP-enabled service provider;

- Whether any policies adopted for IP-enabled services have special implications for rural communities and rural service providers;

- The potential international implications raised by the use of IP-enabled services, such as the possible impact on international settlement rates or trade policies

- The potential impact on numbering resources, network access, and enforcement actions.

III. DISCUSSION

A. A Rare Opportunity to Create the Right Incentives and Deregulatory Paradigm

The Commission has the opportunity to get a regulatory structure in place that will shape the future of communications, allow new technologies and services to emerge, enable traditional telecommunications and emerging communications entities to cooperate and compete, establish the right incentives to ensure investment in and deployment of networks, infrastructure and equipment, and empower consumers to control their own communications experience. The Commission has the power to ensure that innovation in IP-based communications flourishes, so that rapid deployment, adoption, interoperability and ubiquity of IP-based communications emerges, and so that the United States may lead the way in realizing the full promise of IP-based communications. In doing so, the Commission should adhere to two core principles: (1) do not regulate unless necessary; and (2) ensure that no entity can leverage its market power to stifle choice and innovation. With these principles in mind, there is no need to impose legacy regulatory structures on the new and emerging IP-based applications and services, but there is a need to ensure that no entity can wield monopoly control over a facility, a market, or a customer to thwart innovation and consumer choice.

In order to ensure the four Internet Freedoms heralded by Chairman Powell, the Commission must adopt a framework for regulation where market power or facility control exists and no regulation where competitive forces guarantee choice and innovation. This model must also serve as the template for every other related proceeding before the Commission.[6] The Commission might have to abandon some of the convoluted regulatory quilt that currently exists as a result of divergent legacy regulations that govern historically distinct services and technologies. The Commission must logically move to a unified framework that regulates along horizontal network layers, rather than legacy vertical silos.[7]

B. The Protocol Layers and Voice as an "Application"

The Commission must ensure that application service providers ("ASPs') have reasonable access to, and can make full use of, last-mile transmission facilities. As noted herein, such application access need not be accomplished through 251(c)((3) unbundling, but an access obligation, nonetheless, must exist to ensure that consumers may access the application and content of their choice, even if that application provides voice or other services similar to those delivered by the last-mile access provider.

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[6] This approach would be consistent with the Commission's historic conclusions, in particular, its light regulatory approach set forth in *Computer Inquiry*, but this approach would have to be applied consistently across the entire array of proceedings currently before the Commission, including the following proceedings: *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, WC 02-33; *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities*, GN 00-185; *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities,* CS 02-52; *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, WC 01-338; *Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services*, WC 01-337.

[7] *See, e.g.,* Richard S. Whitt, MCI Public Policy Paper, *A Horizontal Leap Forward, Formulating A New Public Policy Framework Based On The Network Layers Model* (December 2003).

Dial-up, DSL-based, wireless, and cable modem Internet access services all utilize bottleneck local network facilities and infrastructure. Until we find a technology that affords open access to limitless capacity for all consumers and service providers, there will always be some degree of imperfect competition in last-mile access. We may have a virtual infinite supply of applications and content, but these applications and content are only guaranteed if consumers can access them through the physical transmission facilities upon which every communications application must ride.

As noted in the *NPRM*, telecommunication engineers have established a set of standards and rules that specify how communications is transmitted through physical media. These transmission protocols have been separated into various "layers" to permit engineers to develop compatible communications technologies. At the bottom layer, Layer 1, is the physical medium itself, be it a copper wire, a fiber strand, wireless spectrum band, or any combination thereof. At the top layer are the applications, which, as considered below, should logically include voice.

For communications to take place over a transport medium, data needs to be translated into a pattern of waves, transmitted across the medium, and then translated back into data at the receiving end of the transmission. Layer 1 also includes standards that directly mediate between the physical medium and the information to be communicated over that medium. It determines, for example, whether the information is to be encoded in analog or digital form, and how the information is to be represented in wave patterns transmitted over the medium. DSL, for example, is a Layer 1 protocol in that it translates digital signals sent by a computer into wave patterns, and then translates those wave patterns back into a digital signal at the other end of the copper transmission

facilities. A dial-up modem, a cable modem, or a wireless modem does precisely the same thing – converting data on a computer into a pattern of waves.

The DSL signals, the dial-up-modem-formulated signals, or the cable modem signals, then are organized through additional sets of rules defined in higher protocol layers. Each of these protocols is designed to allow information to be organized and routed efficiently from one place to another. They do not change the content of that traffic. A data file on a web page might be sent to a computer and downloaded. It might travel over fiber, over copper, over wireless spectrum, over an ATM network, or over DSL when it travels over the copper, and in an IP/TCP protocol, but the file on the web page is the same as the file downloaded on the computer. The content of the data file is not changed.

Voice as an Application. For regulatory purposes, voice, to date, has largely been treated as a unseverable from the physical telecom transmission layer. With IP technology, it now becomes clear that voice is separated from the physical layer and is more accurately categorized in the application layer, and need not be subject to the host of regulations that should be applied to the physical layer. Customers' devices no longer need be managed by individual service providers and voice can be accessed by end users just as any other application. While IP hides the transport and is intended to operate on any transmission medium, IP does not eliminate the need for voice and other applications to ride on the transmission layer.

Under the protocol layering approach, while the transmission layer should be subject to unbundling and Title II regulation, there is little need to regulate voice or other applications that ride on the telecom transmission. Technological neutrality and the

concept of voice as an application suggests that voice could always be considered an application, regardless of technology or delivery medium, and regardless of whether we are utilizing an IP-based or circuit-based network. Under this scenario, the switches, and other routing equipment, be they circuit or packet-based, used to deliver voice need not be subject to unbundling rules as long as end users (and ASPs) can attach appropriate equipment and reach all competing applications. The Commission has already acknowledged as much in the context of exempting packet-switches and DSLAMs from unbundling obligations. The same logic could be extended to the circuit-switches, which have been deployed in great numbers by many competitive carriers. The only caveat would be an assurance that stand-alone transmission facilities can be connected to competitive equipment to ensure that consumers can obtain the applications and content of their choosing.

VoIP is "disruptive communications" in the most positive sense. IP-based communications allow for "open" solutions, with no barriers to entry and no relation to geography. IP-based communications are capable of empowering users to control their own communications experience. There, however, is a danger that VoIP simply becomes nothing more than a POTS replacement, and, if that is all VoIP becomes, consumers will not be much better off than today.

Today, we can only glimpse a hint of the IP-based communications future. Personal and enterprise IM and "presence" continue to grow and empower users. Social networking is helping to supplement business and social mixers. Open source communications is disrupting the vendor marketplace. With push-to-talk, we are rediscovering the walkie-talkie of our youth. Wi-Fi VoIP is disrupting mobile

communications. We do not yet know the full potential and promise of IP-based communications. Our children will be dreaming that up if we give them the tools and latitude to innovate and evolve the ways we communicate.

VoIP has essentially emerged as the "killer app" and, arguably, the first great driver of broadband. And with VoIP, the old interconnection rules need not apply. Open IP-based communication has already enabled early adopters, carriers and enterprises to interconnect directly as peers. End users have access to numerous alternative solutions. Customers can utilize multiple providers as well as enterprise or end user systems. End users can attach a variety of hardware and software including their own "switching" from varying locations -- blurring demarcation points.

This scenario exists because, to date, VoIP providers have had the courage to test the waters, to experiment with Internet and other IP-based communications under the belief that voice is simply an application and will not be pulled into the morass of telecom regulation.

C. "Regulation Matrix"

pulver.com takes this opportunity to propose a relatively simple "regulation matrix" that would allow providers, both telecommunications carriers and ASPs, as well as regulators and consumers, to know, with certainty, whether and to what extent regulation applies to particular IP-based networks, services and applications. Under this structure, providers could largely self-select how they should or should not be regulated. The primary objective for regulators, consumer advocates, and the judiciary would be to

ensure that providers do not misinform consumers and cannot exert excessive, anticompetitive market power.

pulver.com proposes that the Commission establish a clear regulatory distinction between telecom carriers and ASPs with carriers accorded both more rights *and* more responsibilities. For instance, Title II of the Communications Act would allow carriers the right to access numbers and UNEs, collocate and interconnect, and be eligible for universal service support and possibly intercarrier compensation. ASPs would not have these rights. Conversely, carriers would have to comply with Title II obligations, including interconnection, contributing to the universal service fund and paying intercarrier compensation. Carriers would also bear the obligation to abide by any statutory and regulatory obligations to meet the needs of law enforcement, emergency response, and access for persons with disabilities.

pulver.com suggests that IP-based providers should largely be allowed to self-select whether they choose to subject themselves to the more onerous responsibilities of telecom carriers in an effort to avail themselves of the superior rights. If an entity holds itself out as an ASP, it would not be subject to Title II obligations, but it could not avail itself of Title II protection or advertise itself as a telecom carrier.

Within this framework, the Commission, other regulators and the judiciary would also have to be cognizant of any market power or other dominance that the entity could leverage to thwart competition or limit consumer choice. There are obvious distinctions and disparate degrees of bargaining leverage between dominant and nondominant carriers and ASPs, which, if left unchecked, could stymie innovation and choice. Thus, the Commission's paradigm must ensure lighter regulatory treatment of nondominant

providers and guard against unfair abuse of market power or facilities or consumer control by dominant providers.

The following chart reveals the simplicity of allowing an entity to largely self-select whether it should be treated as a carrier or an ASP for regulatory purposes.

	Carrier	ASP
Dominant	ILEC; Cable; others that control last-mile bottlenecks unchecked by competitive forces	Last mile access provider or an ASP with ability to leverage market power
Nondominant	CLECs; VoIP providers holding themselves out as Telecom Carrier and wanting rights of carriers	Most VoIP providers and users of IP Communications (that don't hold themselves out as carriers and don't want rights of carriers)

Certainly, the Commission need not impose archaic, onerous and unnecessary regulations and oversight on any IP-based applications. Voice, data, video, instant messaging, presence, and other similar services can readily be recognized as non-telecom applications. The transmission paths, however, used to provide these applications would have to remain subject to regulatory oversight. While there are conceivably an infinite number of IP application providers, economics and technology logically limit the number of last-mile access providers. Therefore, competition, alone, would be an insufficient check on an entity's market power or monopoly control over an essential choke point in the network. Thus, regulatory oversight becomes, at times, a necessary substitute for a competitive market.[8]

[8] In fact, the North American Free Trade Agreement compels the United States to ensure that a telecom carrier cannot wield monopoly control over last-mile bottlenecks to preclude the provisioning of competitive enhanced services. Article 1305 requires that

> where a Party maintains or designates a monopoly to provide public telecommunications transport networks or services, and the monopoly, directly or through an affiliate,

If an entity wields control or market power over a bottleneck or other transmission layer facility, regulators must guard against an entity's understandable but unacceptable desire to leverage that power into control over the applications that would be available to consumers. Similarly, laws – antitrust or regulatory – must ensure that an entity that wields market power in the content or application layer cannot freeze out its would-be competitors, or leverage its dominance in intercarrier negotiations.[9]

When a controller of a last-mile bottleneck uses Internet-based services to provide telecommunications, the Commission must not allow a structure that would limit the ability of end users to access only one ISP, one ASP, or, for that matter, one retail company. Common carriage principles were created to prevent just such harmful abuses of the network, and the Commission should not abandon those principles in these circumstances.

Monopolists that control bottleneck facilities, left to their own devices, will logically leverage that bottleneck control onto downstream markets. We cannot blame them for this behavior – it is the nature of capitalism's principle of enlightened self-interest. But we can curtail its abuse. This is a structural problem that cannot be addressed purely through private, unregulated, contractual arrangements or other

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> competes in the provision of enhanced or value-added services or other telecommunications-related services or telecommunications-related goods, the Party shall ensure that the monopoly does not use its monopoly position to engage in anticompetitive conduct in those markets, either directly or through its dealings with its affiliates, in such a manner as to affect adversely a person of another Party. Such conduct may include cross-subsidization, predatory conduct and the discriminatory provision of access to public telecommunications transport networks or services.

NAFTA, Article 1305.

[9] A time might come when a company builds an IP-based communications island that precludes its users access to outside entities and outside entities are incapable of reaching these users. There are probably times when such "walled gardens" would be acceptable and times when they serve to deny consumers the most worthwhile communications experience. Regulators should be cognizant of when regulatory or antitrust oversight and intercession might be necessary.

marketplace solutions. This is a problem that, unfortunately, requires some degree of antitrust or regulatory oversight.[10]

Generally, however, where no market dominance or choke point control exists, the simple principle of self-determination can prevail. If an entity holds itself out as telecom carrier, it is subject to the responsibilities imposed upon carriers by Title II (certification, interconnection, CALEA, 911, disability access, etc.), but may also avail itself of the rights of a carrier (interconnection, unbundling, collocation, etc.). Conversely, if entity does not hold itself out as a telecom carrier, it does not have the Title II obligations of a carrier; nor may it avail itself of the rights of a carrier.

D. Two Regulatory Paradigms Can Exist Simultaneously, But, Certainly, Legacy Telecom Regulations Should Not Contaminate and Stifle IP-Based Communications

The Commission must ensure that the inequities and confusion that currently pervade the intercarrier compensation structure do not contaminate the burgeoning IP-based communications industry, particularly where IP does not or only incidentally touches the PSTN.[11] Simply because a regulatory structure exists on the narrow-band world of the PSTN does not mean the Commission should overlay this regulatory structure on the new world of IP-based applications.

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[10] *But see, Verizon Communications, Inc. v. Law Offices of Curtis v. Trinko, LLP*, No. 02-682 (January 13, 2004), in which the Supreme Court indicated that when there exists a regulatory structure designed to deter and remedy anticompetitive harm, the additional benefit to competition provided by antitrust enforcement will tend to be small, and it will be less plausible that the antitrust laws contemplate such additional scrutiny . Without rigorous antitrust oversight of communications competition, regulatory oversight becomes all the more necessary to guard against monopoly control or other anticompetitive behavior.

[11] Leading the way with pro-competitive VoIP principles, Qwest has announced that it will not charge access charges on VoIP traffic.

In fact, both structures can exist concurrently with proper compensation accruing to providers. In the world of the PSTN, where there are usage-based costs associated with originating and terminating traffic, carriers should be justly compensated for providing these service. The intercarrier compensation regime can exist in the world of the narrow-band, dialup world (or, at least, a rational version of an intercarrier compensation regime). In the broadband world, where end users pay a premium for broadband access, the provider should be, is, and will be, justly compensated for providing the broadband pipe. Rather than recoup per-minute access revenue from long distance, ISP, ASP or other providers hoping to reach customers, the broadband access provider receives a premium from its end user customers for providing broadband capacity. This revenue stream will not dry up. Rather, to the extent the last-mile access provider recoups less revenue from per-minute dialup access services, the last-mile access provider will gain revenue for providing the broadband pipe. To the extent that VoIP is a compelling new service offering (and hopefully part of a broader IP-based service including data, video, instant messaging, presence, etc.), these IP-based applications will drive additional revenue to broadband access providers.

E. vNXX and ISP-bound Traffic

The Commission should take this opportunity to resolve, once and for all, the lingering ISP-bound and virtual NXX traffic (variously referred to as "vNXX," "foreign exchange," "FX,") issues that have stifled the ability of entities to establish virtual local presence. In vNXX arrangements, a LEC (typically a CLEC) assigns a telephone number

normally associated with one ILEC local calling area to a customer physically located in another "distant" ILEC area in order to give the customer a "local presence" in the "distant" area. At least until such time as the Commission establishes a unified intercarrier compensation regime, the Commission should conclude immediately that service providers should be allowed to establish virtual local presence and not risk being subject to the having to pay access charges for traffic that clearly looks like all other local traffic.

The Commission should conclude that Section 251(b)(5) applies to all ISP-bound traffic, including transmissions used to obtain voice applications (although most VoIP services rely more on broadband connectivity, rather than dialup). The Commission should act on the DC Circuit remand of the Commission's *ISP-Bound/Recip Comp Order*[12] and rule that ISP-bound and vFX traffic are subject to 251(b)(5) and should eliminate the market growth limitations and ratio caps, which have served only to allow existing carriers to maintain a stranglehold on ISPs and end user customers and has denied ISPs and end users the benefits of competitive choice. Whether a call is local should only depend on where the LEC must pass off its traffic. End user customer location is irrelevant.

The perceived problem of VoIP "arbitrage" exists, in large part, because of the disparity between the local termination rate and the exchange access rate. Once the Commission resolves this disparity, the arbitrage "problem" disappears. The Commission should view VoIP as a catalyst to resolve the intercarrier compensation disparity, and rather, than subject VoIP to access charges, the Commission should work

[12] *In Re Implementation of the Local Competition Provisions in the Telecommunications Act of 1996,* CC Docket No. 96-98, *Intercarrier Compensation for ISP-Bound Traffic*, 99-68, Order on Remand and Report and Order, 16, FCC Rcd 9151, ¶ 82 (Apr. 27, 2001) ("*ISP-Bound/Recip Comp Order*").

to establish a uniform cost-based rate for a carrier providing originating or terminating switched access, regardless of the geographic origination or termination of a communication.

The voice application that does not touch the PSTN certainly should not be subject to any of the regulatory obligations or financial obligations of telecommunications carriers, particularly where such providers do not hold themselves out as offering telecommunications service. To the extent that a VoIP provider connects into the PSTN, the VoIP provider should not be subject to the current, archaic access charge regime. VoIP providers, in order to bring the full capabilities of IP-based communications to consumers, need a cost-based intercarrier compensation structure designed to allow them to provide services without regard for legacy, now arbitrary, geographic and jurisdictional distinctions. Rather than imposing on VoIP providers access charges in their current, subsidy-ridden form, the Commission should bring those charges down to their economic cost, and in no case should VoIP carriers be subject to any rate higher than the 251(b)(5) reciprocal compensation rate.

To ensure this result, VoIP providers must be allowed to establish local presence without threat of being subject to access charges. The Commission must finally acknowledge the absurd geographic distinctions that force jurisdictional and regulatory distinctions between virtually identical services. There is no reason why a carrier should be compensated more for performing the identical function simply because one service is deemed "local exchange service" and the other "exchange access service." The Commission has been sitting on the D.C. Circuit remand of the Commission's *ISP-Bound/Recip Comp* Order for more than two years. The D.C. Circuit made clear that the

Commission failed to justify any distinction between ISP-bound traffic and all other locally-dialed traffic. The Commission should take immediate action to treat all locally-dialed traffic as similarly subject to Section 251(b)(5) reciprocal compensation. In order to promote the growth of IP-based communications, the Commission must allow providers to establish Virtual Local Presence through local pops or virtual NXXs without the threat of being subject to subsidy-filled access charges that bear no connection to the cost of the service provided.

F. Categories of IP-Based Communications

1. *pulver.com Order* and *AT&T Backbone Order*

The Commission asks in the *NPRM* how to categorize the various flavors of IP-based services. To date, the Commission has taken the proper steps in categorizing various flavors of IP-based communications. In the *pulver.com Ord*er the Commission found that Free World Dialup, as an end-to-end Internet communications service, is not a telecommunications service. In the *AT&T IP-backbone Order*, the Commission, applying existing law, properly found that the use of an IP-backbone does not automatically exempt the carrier from access charges. With these two orders the Commission has set the bookends – defining the outer limits of the IP-based communications debate.

2. IP-based Applications that do not touch the PSTN are not Telecommunications Services.

From pulver.com's perspective, the Commission has already taken the necessary action to allow pulver.com's Free World Dialup peer-to-peer Internet communications product to proceed unfettered by unnecessary government intrusion. pulver.com agrees with the Commission's finding in the *pulver.com Order* that computer-to-computer IP-based communications that do not touch the PSTN are not telecommunications services.[13] The Act defines "information service" as the offering of the capability "for generating, acquiring, storing, transforming, processing, retrieving, utilizing or making available information via telecommunications."[14] The abilities to store files, to establish web pages, to cache information obtained from the Internet, and to provide similar services fall within this definition of information services. We also agree that these functionalities remain information services whether the service provider is purchasing transmission facilities from a third party or using its own facilities. Nothing about the ultimate source of the transmission facilities changes the nature of the information services provided to the end user.

pulver.com and other would-be providers of IP-based communications, however, are hoping to interconnect their Internet-only networks with the PSTN. This is where the legacy rules governing the PSTN interfere with smooth interoperability, interconnection, and the ability for IP-based providers to develop ubiquitous reach.

Companies like Free World Dialup are currently working out peering and interconnection arrangements with other Internet-only communications networks and applications. But the full promise of IP-based communications can only be achieved

[13] Frankly, such offerings are probably no more "information services" than a Webpage, database or spreadsheet.
[14] 165 47 U.S.C. § 153(20).

through ubiquitous access. The current intercarrier compensation rules and the other Title II regulations cannot be so onerous, or their application upon IP-based entities so uncertain, that IP-based carriers may not interconnect with the PSTN.

3. IP-based Applications that Touch the PSTN

In order to increase the capabilities, ubiquity and value of IP-based communications, IP-based communications providers will need to transfer calls between private networks and the public Internet and the PSTN. The terms of this interconnection will likely engender disputes between IP-based providers needing to interconnect with carriers that control access to the PSTN.

As noted above, pulver.com suggests that the Commission establish a hierarchy of rights and responsibilities depending on whether the IP-based entity is a telecom carrier or an ASP and whether the entity is dominant or nondominant. Title II rights should apply to all telecom carriers, whether circuit or IP-based. Carriers must allow IP-based telecom carriers to interconnect at tandems and other critical network points. For example, as LECs or their affiliates roll out new IP-based services, they will have an incentive to refuse interconnection with providers of competitive IP telephony and data services.

Furthermore, as the LECs start to convert the circuit switched PSTN to an IP network, it is very likely that they will promote peering as the model for interconnection of IP networks and the transfer of IP-based traffic. While we agree that this is the correct model to pursue, we need to be careful that it is implemented in a way that does not disadvantage competitive providers of VoIP and other IP-based services.

The Commission should also allow IP-based carriers to use special access and other LEC services, just as non-IP-based telecommunications carriers are allowed. Currently, the ability to collocate in LEC end offices is only available to "telecom carriers." Under our proposed "regulation matrix" (discussed above), this right should be expressly available to IP-based service providers that hold themselves out as telecommunications carriers and have submitted to the obligations of telecommunications carriers.

IP-based carriers should also have the right to collocate, even if the IP-based carrier simply wants to interconnect to provide information services or to connect to special access traffic, rather than UNE access. The Commission should prohibit other actions by last-mile access providers that would limit the ability of an IP-based services provider to maximize use of the network. For example, the use of Session Initiation Protocol ("SIP") filters should be prohibited. The Commission should confirm that its broadband deregulation rules, which limit unbundling only to "TDM functions" are restricted to UNEs, and do not give license to last-mile access providers to limit use of Special Access, xDSL, or other broadband transmission by IP-based service providers, or otherwise deny an end user from using her broadband connectivity to access applications of her choice.

G. The Commission Should Ensure that Consumers Can Obtain the Applications of Their Choice

"Information" and "Telecommunications" Service Categories. While IP-based applications, such as Free World Dialup and other variants of IP-based

communications, even if provided by a dominant access provider, may well qualify as "information services," that does not mean that the underlying transmission services upon which those information services ride are not "telecommunications services."

pulver.com disagrees with assertions set forth in various other proceedings before this Commission, and likely to be raised in this proceeding, that the mere bundling of an "information service" with a "telecommunications service" somehow turns that bundled service into *only* an "information service" with no "telecommunications service" component. The long line of Commission precedent makes clear that, regardless of what applications (*e.g.*, data, voice, video) ride on it, the underlying telecommunications transmission service cannot be concealed within the bundled offering.

A monopoly access provider cannot be allowed to use its last-mile bottleneck facilities free of Title II constraints whenever it uses those facilities in part to carry information services and bundles any offered telecommunications services with those information services. Since the ILECs and other providers of last-mile access offer information services along with their telecommunications services, the creation of such a loophole risks rendering Title II irrelevant.

The Commission must ensure that an access obligation prevails that allows ASPs to deliver their innovative services and applications to consumers. Such an access obligation can be developed that does not discourage or disincent last-mile access providers from either building out advanced networks or from wanting to provide reasonable access to ASPs.

pulver.com suggests a few possible approaches below. The bottom line is simply that a monopolist must be encouraged, and perhaps, unfortunately, at times compelled to

ensure that consumers can choose from among a multitude of ASPs and not have to accept whatever limited options or favored solutions the monopolist prefers. Unfortunately, we will never have a completely competitive last-mile access market. As a result, there will always be some need for government oversight to ensure fair access. Fortunately, this application access regime does not have to result in the controversy that resulted from the Commission's experiment with network element unbundling over the past eight years.

H. The Historic and Continuing Need to Regulate Telecommunications Services While Not Regulating Information Services

The Commission should continue to refrain, to the fullest extent possible, from regulating IP-based communications. To the extent that there are inconsistent rules interfering with the progression towards an advance IP-based communications network as it intersects with traditional PSTN networks, the Commission should work to relieve the PSTN of the legacy regulatory structure where it is unnecessary to satisfy a technical or social objective.

There is still a need for continuing regulation of bottleneck facilities. For instance, the reach of the Bell monopoly began to diminish only when the Commission began to require Bell to allow other companies to access the Bell network and to deploy alternate equipment, technologies and applications. This was so with respect to customer premises equipment ("CPE"), long distance service, and information services.

CPE. For nearly a century, Bell refused to allow customers to connect non-Bell equipment to the Bell network. In 1968, however, the Commission set a new course and

ruled that prohibiting connection of non-harmful devices at the customer premises is both unreasonable and discriminatory. It concluded that "[n]o one entity need provide all interconnection equipment . . . any more than a single source is needed to supply the parts for a space probe."[15] Rejecting subsequent efforts by Bell to preserve its monopoly over CPE,[16] the Commission ultimately established a registration program to allow any manufacturer to provide equipment that met particular standards. Subsequently, the Commission concluded that provision of CPE should be detariffed and CPE should be provided on a competitive basis. The Commission adopted a bedrock common carrier principle that it applied to CPE as well as to information services -- bottleneck transmission services would be subject to regulation, so that downstream services that depend on those bottleneck facilities could be deregulated.[17] Under the Modification of Final Judgment ("MFJ"), the Bells also were forbidden from manufacturing equipment.[18] The result was significant benefit for consumers. As the Commission has explained, "decisions to deregulate the provision of customer premises equipment resulted in greatly increased consumer choice among a wide range of such products, and a sharp decrease in prices."[19] The combination of the Commission's deregulatory policies and divestiture has led to a highly competitive market structure for CPE." Providers have stormed into the market with innovative products. Output has expanded dramatically for cordless phones, corded phones, cellular phones, answering devices, and PBXs. And prices of most of these items have fallen dramatically.

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[15] Use of the Carterfone Device in Message Toll Telephone Service, 13 F.C.C.2d 420, 424 (1968).
[16] *See United States v. American Tel. & Tel.*, 524 F. Supp. 1336, 1349-50 (D.D.C. 1981).
[17] In re Amendment of Section 64.702 of the Commission's Rules and Regulations, 77 F.C.C.2d 384, ¶ 9 (1980) ("*Computer II*").
[18] *United States v. American Tel. & Tel.*, 524 F. Supp. at 1349-50.
[19] In re Policy and Rule Concerning Rates for Dominant Carriers, 4 F.C.C.R. 2873, ¶ 26 (1989) ("*Dominant Carriers*").

Long Distance. As in the CPE market, competition for long distance services was suppressed because the Commission failed to adopt and enforce vigorous common carrier regulation, and began to develop only when the courts prodded the Commission to mandate unrestricted resale and interconnection of Bell services. For most of the twentieth century, Bell remained the long distance monopolist. While the Commission attempted to promote competition by requiring interconnection, Bell successfully flaunted these orders. The Commission took the first significant step towards promoting competition in the long distance arena in 1971 when it authorized MCI to provide specialized communications services.[20] As it had with CPE, Bell attempted to stop this competition, and refused to interconnect with the new carriers. While the Commission ultimately ordered Bell to allow access to its FX and CCSA services, the Bell System "persisted in denying interconnection that had the best technical properties.

After gaining a foothold in the provision of private line services, MCI utilized FX to create its Execunet service, which directly competed with Bell's basic switched service. Although the Commission initially ruled this tariff unlawful, the D.C. Circuit reversed, remanding for a clearer explanation of why the tariff was against the public interest, since the Commission had not found that an AT&T monopoly over public switched services was in the public interest.[21] In the interim, Bell announced that it would not provide interconnection for Execunet, and the Commission agreed this was acceptable. In *Execunet II*, the D.C. Circuit reversed this Commission's decision as

[20] *In re Establishment of Policies and Procedures for Consideration of Application to Provide Specialized Common Carrier Services in the Domestic Public Point-to-Point Microwave Radio Service*, 29 F.C.C.2d 870, 871 (1971), *aff'd sub nom. Washington Util. & Transp. Comm. v. FCC*, 513 F.2d 1142 (9th Cir. 1975).
[21] *MCI Telecomm. Corp. v. FCC*, 561 F.2d 365 (D.C. Cir. 1977).

well.[22] Moreover, MCI prevailed in a private antitrust suit based on AT&T's refusal to interconnect MCI's service with Bell's local facilities.[23]

After the *Execunet* decisions, the Commission finally changed course and concluded that there should be open competition in long distance service.[24] The Commission adopted specific rules to enforce equal access requirements. It also required Bell to allow competitors to resell Bell's long distance services. As the Commission grudgingly began to permit competition, the MFJ court broke up the Bell monopoly. In denying a motion to dismiss and later approving the consent decree, the court relied in part on Bell's failure to provide nondiscriminatory interconnection. The government's evidence "show[ed] that defendants [had] sought in a variety of ways to exclude the competition by restricting interconnection to the local facilities."[25] The court also relied on Bell's ability to cross-subsidize to protect its long distance market. By allocating joint long distance and local costs to the local side, where they could be recovered through higher regulated prices, Bell could eliminate long distance competition by selling its long distance services below cost. The court concluded that

> [t]he key to the Bell System's power to impede competition has been its control of local telephone service. Thus, the local telephone network functions as the gateway to individual telephone subscribers. It must be used by long distance carriers seeking to connect one caller to another. . . . The enormous cost of the wires, cables, switches, and other transmission facilities which comprise that network has completely insulated it from competition. Thus, access to AT&T's local network is crucial.[26]

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[22] *MCI Telcomms. Corp. v. FCC*, 580 F.2d 590 (D.C. Cir. 1978).
[23] *MCI Communications Corp. v. American Tel. & Tel.*, 708 F.2d 1081 (7th Cir. 1983).
[24] *In re MTS and WATS Market Structure, Phase I*, 81 F.C.C.2d 177 (1980), modified on recon., 97 F.C.C.2d 682 (1983), *modified on further recon*., 97 F.C.C.2d 834 (1984), *aff'd in principal part and remanded in part, NARUC v. FCC*, 737 F.2d 1095 (D.C. Cir. 1984).
[25] *United States v. AT&T*, 524 F. Supp. at 1353.
[26] *Id.* at 223.

The court therefore entered the MFJ severing the BOCs from AT&T, authorizing the BOCs to provide service only within LATAs, and requiring the BOCs to provide access to all interexchange carriers on equal terms. It found "clear, and indeed overwhelming, procompetitive justifications" for these restrictions."[27] Competition burgeoned as a result of the new environment stemming from the MFJ and from the Commission's altered regulatory approach. The Commission has explained that after "we opened entry into the market for interstate long distance services, and determined that the lack of market power among new entrants made it unnecessary to regulate their operations comprehensively, the prices for such services fell and the number of service providers grew exponentially."[28]

Information Services. The history of information services teaches the same lesson as the history of CPE and long distance services. A 1956 consent decree precluded the Bell System from offering data processing services, and the MFJ expanded this prohibition to include all information services. The MFJ also required the BOCs to provide "information access" (a form of exchange service) to information service providers equal to the access provided to AT&T.[29] The court justified restrictions on BOC provision of information services because "[h]ere, too, the Operating Companies could discriminate by providing more favorable access to the local network for their own information services than to the information services provided by competitors, and here, too, they would be able to subsidize the prices of their services with revenues from the local exchange monopoly."[30] As data processing services began to grow and became

[27] *Id.* at 189.
[28] *Dominant Carriers* para. 26.
[29] *United States v. AT&T*, 552 F. Supp. at 227; *id.* at 141 n.40.
[30] *Id.* at 189.

increasingly intermingled with communications services, the Commission had to determine the appropriate regulatory treatment of these two kinds of services. In *Computer I,* the Commission drew a distinction between "basic" transmission services, and "enhanced" services that were carried over those basic transmission services. In *Computer II,* it concluded that "basic transmission services are traditional common carrier communications services" and "enhanced services are not."[31] Accordingly, it determined that basic transmission services would be regulated under Title II, while enhanced service, although subject to the Commission's Title I ancillary jurisdiction, would remain unregulated.

The Commission also asserted its ancillary jurisdiction to preempt any inconsistent state regulation of enhanced services. As defined in *Computer II*, basic service was the "the common carrier offering of transmission capacity for the movement of information," which involves providing a communications path "for the analog or digital transmission of voice, data, video, etc."[32] While transmission capacity traditionally had been offered for discrete services, such as telephone service, this was no longer the case. Instead, the order states, carriers increasingly "provide bandwidth or data rate capacity adequate to accommodate a subscriber's communications needs, regardless of whether subscribers use it for voice, data, video, facsimile, or other forms of transmission."[33] Thus, from the outset, the Commission embraced a broad-based definition of basic communications services, which transcended the particular features or applications used with the service. Enhanced service, on the other hand, included "any offering over the telecommunications network which is more than a basic transmission

[31] *Computer II* ¶ 119.
[32] *Id*. ¶ 93.
[33] *Id*. ¶ 94.

service."[34] In particular, enhanced services were "services, offered over common carrier transmission facilities used in interstate communications, which employ computer processing applications that act on the format, content, code, protocol or similar aspects of the subscriber's transmitted information; provide the subscriber additional, different, or restructured information; or involve subscriber interaction with stored information."[35] Such services include data retrieval through a mail box, voice storage, and automatic call answering.[36]

While acknowledging that "enhanced services are dependent upon the common carrier offering of basic services," the Commission declined to regulate the resulting enhanced services, "the remaining components of which are available from the competitive resources and capabilities of the data processing industry."[37] Instead, the Commission separately identified and regulated the underlying transmission facilities. In order to prevent facilities-based carriers from acting on their incentive to leverage their control of bottleneck basic facilities onto the downstream market for enhanced services, the Commission required such carriers to provide the underlying transmission services on a nondiscriminatory basis. The thrust of this requirement, the Commission explained, is "to establish a structure under which common carrier transmission facilities are offered by them to all providers of enhanced services (including their own enhanced subsidiary) on an equal basis." This means that "the same transmission facilities or capacity provided the subsidiary by the parent, must be made available to all enhanced service providers under the same terms and conditions." This requirement "provides a structural

[34] *Id.* ¶ 97. The three-part definition of "enhanced services" was codified in the Commission's rules at 47 C.F.R. § 64.702(a).
[35] 47 C.F.R. § 64.702(a).
[36] *Computer II* ¶¶ 97-98.
[37] *Id.* ¶ 132.

constraint on the potential for abuse of the parent's market power through controlling access to and use of the underlying transmission facilities in a discriminatory and anticompetitive manner."[38]

Dominant carriers operating under the *Computer II* structural separation rules are prohibited from offering basic and enhanced services together at a single bundled price. Moreover, the BOCs ultimately were allowed to jointly market enhanced services and telecommunications services, but "they remain obligated to offer the telecommunications service component separately" through the Comparably Efficient Interconnection ("CEI") and Open Network Architecture ("ONA") requirements.[39] Thus, even while the Commission replaced the BOCs' structural separation requirements with nonstructural safeguards, it affirmed and strengthened the requirement that the BOCs must acquire transmission capacity for their own enhanced services operations under the same tariffed terms and conditions as competitive ESPs.

The 1996 Act and After. In the Telecommunications Act of 1996, Congress picked up where the Commission and the MFJ had left off. The basic principles of the MFJ and the *Computer Inquiry* rules were either directly incorporated or implicitly understood in the Act's definitions and prescriptions. Thus, Congress concluded that a "telecommunications provider" is subject to common carrier regulation, including the Act's interconnection obligations, "to the extent that it is engaged in providing telecommunications services."[40] The term "telecommunications service," in turn, is defined as "the offering of telecommunications for a fee directly to the public, or to such

[38] *Id*. ¶ 229.
[39] *In re Policy and Rules Concerning the Interstate, Interexchange Marketplace*, 16 F.C.C.R. 7418, ¶ 43 (2001) ("*CPE/Enhanced Services Bundling Order*").
[40] 47 U.S.C. § 153(44).

classes of users as to be effectively available to the public, regardless of the facilities used."[41] The Commission has thus far interpreted the term "telecommunications carrier" as essentially synonymous with the term "common carrier" as it was used in the 1934 Act.[42] The Ninth Circuit twice has remanded this decision to the Commission for a lack of legal and record support. The Commission has not yet addressed the Court's concerns, despite the passage of some nine years.

Under the 1996 Act, common carrier regulations apply wherever a communications operator exercises control over a bottleneck facility. Thus section 251 of the Act imposes duties on carriers that vary depending upon those carriers' control of bottleneck facilities. At the most general level, all carriers are required to interconnect with other carriers and to configure their networks so as not to frustrate interconnection with other carriers. Further, all LECs are required to provide resale, number portability, dialing parity, access to rights-of-way, and reciprocal compensation. Finally, all but the smallest ILECs have more stringent duties, including the duty to provide unbundled access to network elements. And for the BOCs, the MFJ's structural separation requirements were carried forward in section 271 of the Act. This progressive tightening of the reins implicitly acknowledges the principle described above – that specific

[41] *Id.* § 153(46).

[42] *In re AT&T Submarine Sys., Inc.*, 13 F.C.C.R. 21585, ¶ 6 (1998) ("[T]he term 'telecommunications carrier' means essentially the same as common carrier."), *aff'd, Virgin Islands Tel. Corp. v. FCC*, 198 F.3d 921, 927 (D.C. Cir. 1999); *accord In re Cable & Wireless, PLC Application for a License to Land and Operate in the United States a Private Submarine Fiber Optic Cable*, 12 F.C.C.R. 8516, ¶¶ 12-13 (1997). No court to date has independently interpreted the statute, however. While the D.C. Circuit has held that the Commission's interpretation is a permissible construction, it has noted that the terms "telecommunications carrier" and "common carrier" are "not necessarily identical," and has reserved the question of what differences exist between the two terms. *Virgin Islands Tel. Corp. v. FCC*, 198 F.3d 921, 927 (D.C. Cir. 1999), *aff'g In re AT&T Submarine Sys. Inc.*, 13 F.C.C.R. 21585 (1998).

regulations are needed to protect the public interest from the exercise of market power by carriers that control bottleneck facilities.

The Continuing Need To Regulate Bottleneck Facilities. The most important lesson to draw from the uneven history of competition in American telecommunications markets is that access to bottleneck transmission facilities promotes competition, which in turn spurs innovation and investment, and so benefits consumers. Whenever the courts or the regulators relaxed their enforcement of these common carrier obligations, monopolization spread into downstream markets, prices rose, and innovation stalled. When they believe their own bottleneck facilities are put at risk by another bottleneck, the ILECs themselves have drawn the same conclusions: [W]ithout the kind of strong relief required to break [the] monopoly, [a bottleneck monopolist] . . . will favor its own and its partners' services, exclude competitors' products and services from access to consumers, and degrade its rivals' services and raise their costs. Because potential customers will have to pass through [the monopolist's bottleneck], the [monopolist] will retain the ability to exclude or marginalize all manner of . . . messaging products, video or music offerings, Internet services, and other 'utilities' of modern life. . . . By controlling all these communications gateways, [the monopolist] will not only preserve its [bottleneck] against all serious threats, it will substantially lessen competition in the provision of innovative new "convergent" services.[43] While competitive markets maximize social welfare, firms that control bottleneck facilities, if left unregulated, restrict output, increase prices, and do not develop innovative services.

[43] *United States v. Microsoft Corp.*, Civ. Act. No. 98-1232, Comments of SBC Communications Inc. on the Proposed Final Judgment at 3-4 (Jan. 28, 2002).

The Commission's pro-competitive, deregulatory *Computer Inquiry* policies embraced this rule and have greatly benefited consumers. In the early 1970s, companies such as CompuServe and Prodigy began providing interactive information content services. These enhanced service providers ("ESPs") offered interactive services via computer connections using FTP, Telenet, Usenet, and other protocols, and utilized a vast array of applications in the process. Beginning in the mid-1990s, independent ISPs such as AOL, Earthlink, CompuServe, Prodigy, MSN, and thousands of smaller firms facilitated the mass deployment of Internet services by giving consumers access to Internet-based content over narrowband "dial-up" telephone connections. Today ISPs offer consumers a wide range of competitive services, including services such as customized web pages, web hosting, e-mail server provision, e-mail roaming, IP addresses (static or dynamic), access to domain name search and registration, browser and search engines, anti-spam software tools, Instant Messaging, streaming audio and video feeds, public radio station broadcasts, community bulletin boards and other local content, and technical seminars and workshops. Although the industry is experiencing consolidation and considerable churn due to the recent economic downturn, there still are thousands of ISPs and ASPs providing consumers with a wide variety of choices. This is due, in large part, to the Commission's wisdom and foresight in setting up an unregulated structure for enhanced or information services, and a regulatory structure for basic or telecommunications services, particularly where the provider of the telecommunications service wields monopoly control or market dominance.

The important lesson is that the controller of last-mile bottlenecks must not be allowed to preclude consumers from availing themselves of Chairman Powell's net

freedoms: freedom to access content; freedom to use applications; freedom to attach personal devices; freedom to obtain service plan information. The IP-based application providers must be allowed to reach consumers to provide services that are distinct from, or compete with, the services offered by the controller of last-mile access facilities.

Monopolists are not likely to support innovative services, particularly where they risk cannibalizing profitable, existing services. An integrated provider with monopoly control over the access pipe could engage in content or application discrimination – insulating its own affiliated content from competition by blocking or degrading the quality of outside content. Content discrimination could involve a range of strategies, from blocking outside content entirely, to affording affiliated content preferential caching treatment.

Multiple firms trying different strategies are far more likely than a monopoly to produce innovative products. A fundamental underpinning of the 1996 Act is that competition among service providers is the surest means of ensuring the availability to consumers of an array of telecommunications services at reasonable prices. Admittedly the unbundling model attempted in the wake of the 1996 Act does not appear to have borne much fruit and has served only to cause massive infighting between ILECs and CLECs.

As more communications services move to Internet-based platforms, the harm caused by content-based discrimination becomes greater. A customer of a Bell or cable company's bottleneck Internet telephony service would be greatly harmed if connections to one ISP, ASP or retail establishment were degraded because the Bell or cable company had a "preferred" arrangement with a different ISP, ASP or retailer. When that customer

is told she has no choice but to accept the Bell's degraded service because it is an "information service," and not a "telecommunications service," she is not likely to be satisfied with the answer. As this example suggests, the inevitable consequence of the deregulation of the bottleneck transmission provider is the re-regulation of the integrated ISP. Common carrier regulation, and most specifically the common carrier regulation implemented in the *Computer Inquiry* proceedings, effectively stops such discrimination and allows competitive downstream markets to develop without the need for regulation.

When there are many ISP and ASP, consumers can object to such discrimination by choosing another ISP or ASP, allowing market forces to substitute for regulation. But were there is only one or two ISPs or ASPs, each affiliated with the wireline and cable modem bottleneck providers, there would be no reason for them not to act on their incentives and engage in content or application discrimination through the Internet access services they provide.

In sum, a rule that allows a last-mile access provider to extend its monopoly onto downstream information services markets would greatly disserve the public, and would in the end require re-regulation of information services markets that were previously competitive and properly left unregulated. For competition to survive in markets downstream to bottleneck transmission facilities, those facilities must be provisioned in a manner that allows consumers to access the applications and content of their choosing.

J. Strengthening *Computer Inquiry*

As noted above, the Commission needs to empower consumers and ensure that they can obtain the applications and services of their choosing. Rather than embark on a full-blown 251(c)(3)-like unbundling regime to ensure competitive access by ASPs and other competitive IP-based entities, the Commission could take any number of less onerous paths. For instance, the Commission could simply enforce and strengthen its *Computer Inquiry* rules to maximize the ability to engender innovation and competition in an unregulated information services market.

The thrust of the Commission's *Computer Inquiry* cases was that bottleneck transmission facilities need to be shared in order for there to be a competitive information services market. The relevant consideration is that the bottleneck transmission facilities needed to provide broadband information services, such as VoIP, are bottleneck transmission facilities that consumers need in order to obtain desired content, services and applications, and its bottleneck status does not vary with the nature of the protocols used to carry applications across the physical transport. All applications delivered via higher protocol layers rely on the bottleneck physical transport. Competitive access to a multiplicity of applications (be they video, data, or voice) must be guaranteed either by market forces or through some degree of regulation over the physical transport layer. Where the competitive market is insufficient to guarantee consumer choice, regulators will have to intercede to guard against monopoly control and its inevitable limitations on choice, price and innovation.

Section 230 of the Telecom Act notes that "[t]he Internet and other interactive computer services have flourished, to the benefit of all Americans, with a minimum of government regulation," and made it national policy "to preserve the vibrant and

competitive free market that presently exists for the Internet and other interactive computer services, unfettered by Federal or State regulation."[44] The interactive services market environment that the Act embraces is the very same one the Commission helped to create and preserve over twenty years ago with the *Computer Inquiry* rules. Both the *Computer Inquiry* rules and the 1996 Act are built on the same premise: *deregulation* of telecommunications markets, and of markets that depend upon telecommunications inputs, is possible only with *regulation* of bottleneck telecommunications facilities. In that sense, as the Commission has continually stressed, both the Act and the *Computer Inquiry* rules are deregulatory. Congress also adopted the basic structure of the *Computer Inquiry* in the 1996 Act.

Thus, as the Commission itself has concluded, Congress intended the definitions of "telecommunications service" and "information service" to mirror the preexisting definitions of "basic services" and "enhanced services" fashioned in the *Computer Inquiry* regime. "Congress intended the definitions of 'telecommunications,' 'telecommunications service' and 'information service' to build upon the frameworks established prior to the passage of the 1996 Act, including the MFJ and Commission precedent."[45] As the Commission stated in previously considering the 1996 Act's definitional provisions, "[o]ur analysis here rests on the reasoning [of] this [*Computer II]* framework."[46] The Commission repeatedly has rejected claims that the 1996 Act rendered the *Computer* rules unnecessary or obsolete. Following passage of the 1996

[44] 47 U.S.C. § 230 (a)(4), (b)(2).
[45] In re Implementation of the Non-accounting Safeguards of Sections 271 and 272 of the Communications Act of 1934, as Amended, 11 F.C.C.R. 21905, 13 F.C.C.R. 11230, ¶ 29 (1996), remanded on other grounds, 16 F.C.C.R. 9751 (2001) ("Non-Accounting Safeguards Remand Order"). See also In re Federal-state Joint Board on Universal Service, Report to Congress, 13 F.C.C.R. 11501, 13 F.C.C.R. 11830, ¶ 45 (1998) ("Universal Service Report to Congress") ("Congress intended the 1996 Act to maintain the Computer II framework."); Id. ¶ 39 ("Congress built upon . . . Computer II.").
[46] *Universal Service Report to Congress* ¶ 69 n.138.

Act, several BOCs argued that the *Computer II*, *Computer III*, and ONA requirements were unnecessary and redundant in the face of the new local competition provisions. The Commission disagreed, concluding that the preexisting requirements are consistent with the 1996 Act, and continue to govern BOC provision of information services. The Commission explained that the *Computer Inquiry*-based rules are "the only regulatory means by which certain independent ISPs are guaranteed nondiscriminatory access to BOC local exchange services used in the provision of intraLATA information services."[47] Continued enforcement of these safeguards is necessary, the Commission concluded, and "establishes important protections for small ISPs that are not provided elsewhere in the Act."[48]

The Commission has consistently and rightly recognized the "fundamental provisions" contained in the *Computer II* and *Computer III* decisions, that facilities-based carriers continue to offer the underlying transmission service on nondiscriminatory terms, and that competitive enhanced services providers should therefore continue to have access to this critical input. The Commission, to date, has consistently ensured that competitive enhanced service providers continue to have non-discriminatory access to the underlying transmission capacity. In particular, "the separate availability of the transmission service is fundamental to ensuring that dominant carriers cannot discriminate against customers who do not purchase all the components of a bundle from the carriers themselves. The Commission must not stray from this guiding principle as it develops rules or abstains from regulating the treatment of IP-based communications and the ability of consumers to access the applications of their own choosing.

[47] *Non-Accounting Safeguards Order* ¶ 134.
[48] *Id.*

The Commission might consider simply revising the ONA and CEI rules adopted in the Commission's *Computer III* proceeding.[49] In lieu of full-blown 251(c)(3) unbundling obligations, the Commission should consider a process that would guarantee fair access by consumers to IP-based applications and ensure that consumers can attach the equipment necessary to obtain such applications.

K. Naked DSL, Cable Modems, and other Broadband Access Services

pulver.com is hopeful that the Commission will establish the right incentive and regulatory structure to encourage innovation to the fullest extent possible.

With the principle of innovation at the edge, pulver.com is concerned about recent Bell efforts to deny wholesale customers a stand-alone DSL access service.[50] Such a "naked" DSL offering (defined as DSL loops that are available to any application that the end user customer may choose) is essential to ensure that innovative competitors can provide their own IP-based applications (particularly, and initially, voice) by taking raw telecom transmission and attaching their own facilities, electronics, equipment, services and/or applications.

If the Bells are allowed to tie the offering of DSL transmission with the obligation that the consumer purchase ILEC POTS, it will be increasingly difficult for consumers ever to experiment with alternative IP-based voice applications. The Bell company will essentially maintain its monopoly control over the consumers' voice service until its own

[49] In re Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services, 13 F.C.C.R. 6040, ¶ 31 (1998) ("Further Notice").
[50] *See, e.g., BellSouth Emergency Request for Declaratory Ruling*, WC Docket No. 03-251; *BellSouth Petition for Forbearance*, WC 04-48. To its credit, Qwest has indicated that it would provide "naked DSL. Qwest also announced that it will not charge access charges on VoIP traffic.

VoIP-product is ready for prime-time and may replace the Bell's own POTS offering. This does nothing to promote innovation; rather, it is just mere replacement of POTS with an indistinguishable voice service, albeit in an IP format.

The Commission has consistently maintained that when a carrier provides broadband transmission on a stand-alone basis, without a broadband Internet access service, it is providing a telecommunications service.[51] It should reaffirm that conclusion here

There are several different paths the Commission could take to empower consumers to utilize IP technology. The important principle is that, where an entity has control over a customer, a choke point or other facility such that the end user loses her ability to control her communications or Internet experience, the regulator should intercede to ensure that would-be monopolists do not preclude consumers from reaching and utilizing the applications of their choice, be they video, data, or even voice.

L. The Commission Must Allow for Industry-based Solutions to Achieve Social Goods

pulver.com recognizes that there are certain social obligations that are provided by circuit-based telecommunications carriers that are not currently provided, at least not

[51] *NPRM* ¶ 26 & n.60, citing *Advanced Services Order*, 13 F.C.C.R. 24012, ¶ 35 (1998). *See also Universal Service Report to Congress* ¶ 15 ("the provision of transmission capacity to Internet access providers and Internet backbone providers is appropriately viewed as 'telecommunications service' or 'telecommunications'"); *Second 706 Report* ¶ 21 ("bulk DSL services sold to Internet Service Providers are . . . telecommunications services, and as such, ILECs must continue to comply with their basic common carrier obligations with respect to these services."); *id.* ¶ 35 ("xDSL and packet switching are simply transmission technologies"); *id.* ¶ 36 ("in [the case of Internet access], we treat the two services separately: the first service is a telecommunications service (*e.g.*, the xDSL-enabled transmission path), and the second service is an information service, in this case Internet access."); *In re GTE Telephone Operating Cos. GTOC Tariff No. 1*, 13 F.C.C.R. 22466, ¶ 16 (1998) ("*GTE DSL Tariff Order*"). *See also, e.g.*, SBC Comments in Support of its Application for InterLATA Authority for Arkansas and Missouri, FCC No. at 54-58 (Aug. 20, 2001) (DSL transport service is a telecommunications service).

169 47 U.S.C. § 153(46).

identically, by IP-based communications providers. pulver.com trusts that the Commission is aware that the capabilities of IP-based communications will shortly provide applications that will greatly improve the services provided by communications network. An obvious example, is the ability of IP-based emergency response systems to enable a distressed person to simply press a button and have coordinated emergency response teams and other entities obtain immediate access to the person's location, medical history and other relevant data that might require particularized treatment. That is the world that we hope to create over the next few years with the deployment of IP communications.

Most of these issues will be resolved as a matter of course by market forces. When IP-based services are to be used by a customer as a replacement for its existing phone service, the provider will not remain in business if it cannot guarantee quality emergency response. Where market forces fail, at least initially, to ensure satisfactory provisioning of social goods, the regulatory matrix set out above should adequately compel those entities that hold themselves out as carriers to adhere to the social obligations of telecommunications carriers.

Certainly, an IP-based communications entity that does not hold itself out as a carrier should not be subject to the same social obligations as the consumer's primary line provider. For instance, simply because X-Box offers a voice application on its Internet game platform does not mean that the user of the X-Box should have an expectation that Microsoft will provide E911 service to the gamer.

pulver.com and the international IP-based communications community are committed to promoting the social good by establishing industry-based solutions to the host of social issues confronting IP-based communications.

pulver.com has initiated an effort, currently under the auspices of the Global IP Communications Alliance ("IP Alliance"). The IP Alliance is intended to serve as an international consortium of IP-based communications service and application providers committed to realizing the promise of interconnecting IP-based communications. The IP Alliance will adopt and implement common principles designed to promote several primary objectives:

1) Promote the interconnectivity of IP-based communication services with an initial focus on voice applications.
2) Work to ensure that IP-based communications entities address and develop financially responsible industry-based solutions to satisfy worthy policy objectives such as emergency response, law enforcement, security and privacy, numbering, naming and addressing.
3) Work to ensure that IP-based communications can grow unregulated, or with as little regulation as possible, consistent with the goal of fostering open IP-based communications.
4) Work towards interconnecting the increasing number of VoIP and IP-based communications islands into one large IP-based communications global network by using open global Internet standards. Entities, of course, may maintain their own Intranets and other internal IP-based communities.
5) Work to accomplish interconnections between IP-based communications providers in a responsible way, so as not to expose the networks to unwanted attacks and users to unwanted telemarketing and spam. IP-based communications providers will use the pertinent IETF and ITU-T standards and practices and must assure authenticated and correct IETF and ITU-T standards compliant transmission of the identity of their subscribers who originate a call.
6) Work to support the model of financially sustainable Internet broadband service and financially sustainable VoIP service while at the same time promoting competition in the open market to best serve the users of VoIP.
7) Work to develop intellectual property protection and the promotion of open standards using similar guidelines as those customary for Internet standards.
8) Work to foster and protect the rights of users of IP-based communication including the equal, free market based right to access content, the right to use applications of one's choice, the right to attach approved personal devices of

one's choice, the right to obtain service plan information, and the right to privacy and security.

9) Focus initially on VoIP, but will also consider other IP-based communications services, such as presence, instant messaging, multimedia, events and conferencing collaboration emerging in enterprises and in mobile services networks.
10) Interface between the various standards bodies, government agencies, industry associations, and other bodies and compiling and communicating an overall technical roadmap for IP-based communications. While it will not establish standards, the IP Alliance will promote compliance with established standards.
11) Cooperate with other organizations or entities that are working to ensure that VoIP is unregulated, or subject to as minimal regulation as possible.
12) Educate regulators, legislators and other government bodies on the value and promise of IP-based communications.
13) Bring together the distinct players and varieties of IP-based communications and promote an overall vision for global IP-based communications. For example, the IP Alliance will consider how the work going on in one country intersects, overlaps or competes with work going on in other countries, or at the UN, ITU, IETF, law enforcement agencies, regulatory commissions, emergency response administrators, numbering administrators, as well as at the various industry associations such as the International Packet Communications Consortium, SIP Forum, SIP Consortium, SIP Center, SIP Stone, Cable Labs, 3GPP, W3G, various University efforts, etc.
14) Establish detailed interoperability principles and provide consultation between entities compliant with any individual standard on how to interoperate with the rest of the world.
15) Serve such other functions that are unmet by the other IP-based communications-related organizations and standards bodies, including supporting the introduction of IP-based communication to encourage innovation at the edge of the network.

The IP Alliance, with initial funding and resource allocation from pulver.com has already begun to take steps to achieve these goals. Without any immediate regulatory compulsion, the IP Alliance has begun to do the following:

- Develop a common set of principles governing the behavior of IP-based entities.
- Implement the principles by establishing subgroups to develop relevant guidelines (with the assistance of engineers and other industry experts), by marketing these guidelines throughout the industry (including at industry fora), and by holding discussions with government officials around the world.
- Build up a knowledge base for solving regulatory and legal challenges to assist the members of the IP Alliance and their clients and users of IP-based communications.

- Contribute to the interoperability work in other organizations, such as in industry test labs, in the SIP Forum and other interoperability entities.
- Host a web site to make its goals and activities known to users and providers of IP-based communications worldwide. The web site will contain pertinent legal, regulatory information to assist IP-based communication users and providers in promoting the growth of usage of IP-based communications, as well as links to technical information on interoperability, peering relationships, identity management and information on how to prevent denial of service attack, spamming, telemarketing call and other non-desirable side effects.
- Translate proposed standards into terms and concepts cognizable to laypeople and promote the adherence to standards established by standards bodies.
- Identify problems that might be plaguing the IP-based communications industry and interface with appropriate authoritative bodies to develop solutions.
- Identify industry groups and other entities attempting to solve commercial, technical, operational and social issues related to IP-based communications implementation and interconnection.
- Serve as the international hub or liaison for the disparate industry groups and other entities worldwide attempting to resolve commercial, technical, operational and social issues related to IP-based communications implementation and interconnection.

IV. CONCLUSION

In the future, we envision a balance of people looking to manage their own access and people looking for services from third parties. The Internet will be the model of future communication and we should embrace the Internet as a "regulation-free" zone. We can empower consumers to control their own communications, as long as the end user has a broadband pipe and the ability to reach applications and attach approved equipment of her choice.

Excessive hype of Internet Telephony back in 1996 brought forth the ACTA Petition, which attempted to thwart the progress of Internet communications. pulver.com trusts that the Commission can see beyond such short-sighted, self-serving petitions. The

"Age of Voice on the Net" is upon us and it is time for the industry to move beyond the hype of VoIP and to deliver the services that are only possible because of the advent of IP-based communications. The advent of a technology like SIP means that for the first time in the two centuries of electronic communications, the same protocol can be used on an end-to-end basis between customers on two ends of a communication. This represents a radical change in the engineering of communication networks and the manner by which value added services can and will be introduced in the near future. Some of these services start to become very visible only when we start to blur the line between instant messaging, presence, and voice communication. Throw in things like blogging, social networking and gaming and things just start to get interesting. VoIP is clearly much more than a POTS replacement technology.

We do not know the future's requirements. IP Communications can change the way we work and live. It has the potential to redefine communications as we know it today. In order to realize this potential, it is essential for the Commission to set the tone, to lead the way and ensure that it and other regulatory bodies around the world do no harm and ensure the growth and viability of IP-based communications.

Respectfully submitted,

/s/

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